

Abstract**Omniflow – A Biosynthetic Vascular Prosthesis: Current Evidence for Use in Haemodialysis**

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Introduction:

Omniflow is a biosynthetic vascular prosthesis and is indicated when a primary arterio-venous fistula cannot be created. We present a systematic review and pooled data synthesis on its use in vascular access for haemodialysis.

Materials and Methods:

Review methods were according to the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines. Published literature from five electronic databases was searched. Studied outcomes included graft type created, time on dialysis, comorbidities, primary and secondary patency, rescue procedures for thrombosis and time to first puncture.

Results:

3 studies were identified with 112 individual patients eligible for analysis. This encompassed a total of 128 procedures from 1992 – 2008. The mean median age was 64.3 (24 – 81). 56.3% of patients had a forearm loop fistula created. 23.4% had a forearm straight fistula and 20.3% a thigh loop fistula. 49.2% required rescue procedures for thrombosis. The graft infection rate was 1.6%. There was no limb loss and only 10.9% demonstrated any post-implantation stenoses. Primary patency at 12 months was 63% and at 24 months was 46.3%.

Discussion and Conclusion:

In patients where a primary arterio-venous fistula cannot be created, Omniflow represents a viable alternative to other prosthetic grafts and may confer benefit as a biosynthetic prosthesis particularly in terms of infection resistance. This data represents the available data on Omniflow but does not necessarily include recent graft improvement (Omniflow II), which may demonstrate improved results.